

FIG. 1
PRIOR ART

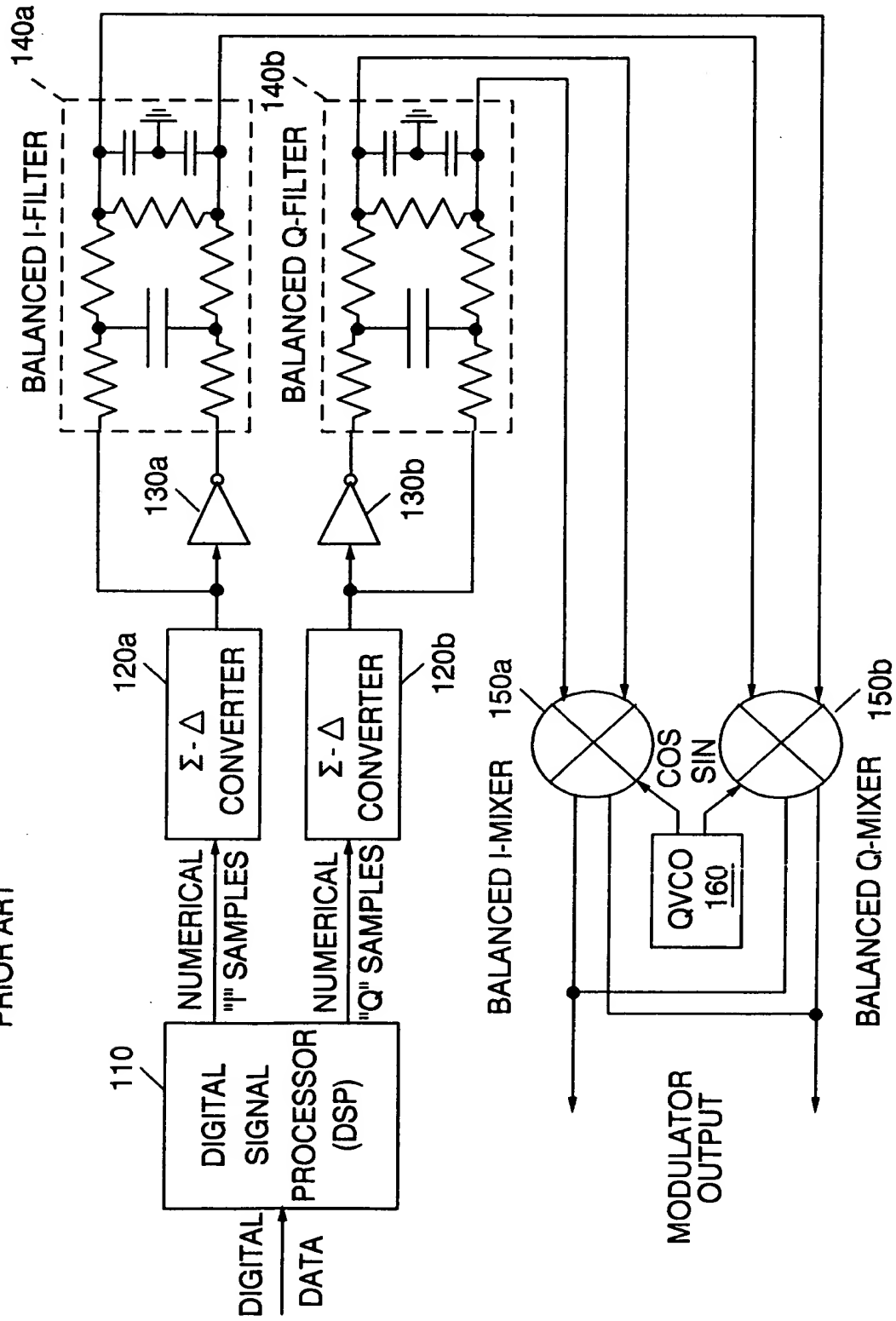


Fig. 3

Block diagram of a modulator circuit (Fig. 3). A QUAD SPLITTER (310) provides COS and SIN signals to two CLASS-B BIASED GILBERT MULTIPLIER CELLS (320a and 320b). I-DATA is input to 320a, and Q-DATA is input to 320b. The outputs of both multiplier cells are combined to produce the MODULATOR OUTPUT.

The diagram illustrates a differential signal processing circuit. At the bottom, a **DATA** input line splits into two paths, each entering a **CLASS-B BIASED DRIVER** block, labeled **420a** and **420b**. The output of driver 420a is connected to the bottom input of an **EMITTER COUPLED TRANSISTOR PAIR** block, labeled **410a**. Similarly, the output of driver 420b is connected to the bottom input of another **EMITTER COUPLED TRANSISTOR PAIR** block, labeled **410b**. The top outputs of blocks 410a and 410b are connected to a common **OUTPUT** line. The two emitter-coupled transistor pairs are cross-coupled at their top inputs, indicated by two intersecting lines. Each of these top inputs also receives an external AC signal, represented by a sine wave symbol (~).

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graph BT
    DATA --> CS[510 CURRENT SOURCE]
    CS --> F[520 FILTER]
    F --> CM[530 CURRENT MIRROR]
    CM --> OUT[ ]
  
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FIG. 6

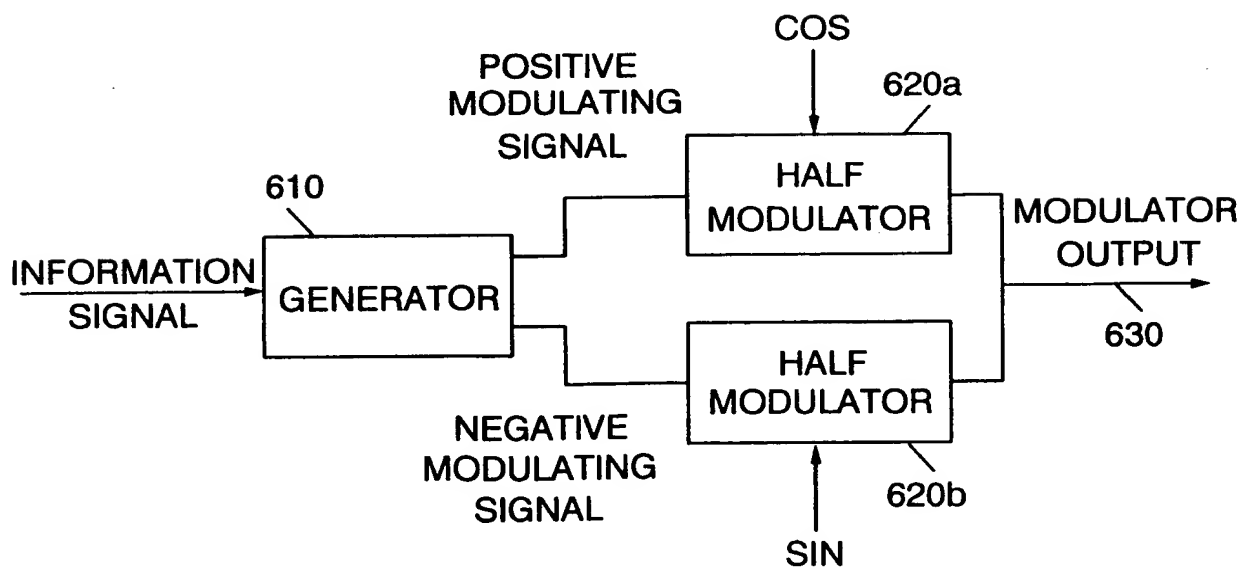
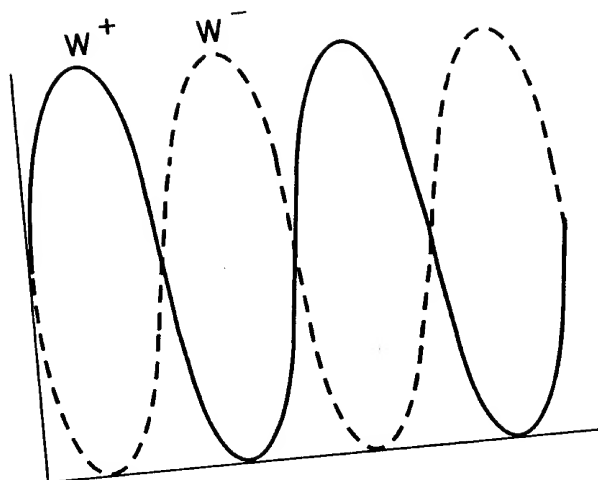


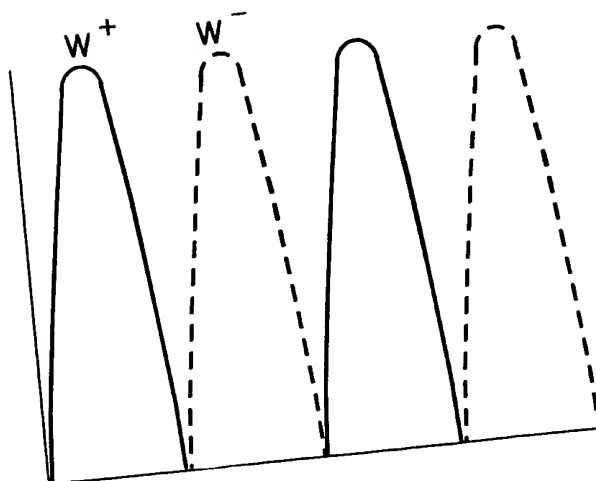
FIG. 7B

FIG. 8A
PRIOR ART



CLASS-A
 W^+ IS THE CURRENT
WAVEFORM IN TR3A
 W^- IS THE CURRENT
WAVEFORM IN TR3B

FIG. 8B



CLASS-B
 W^+ IS THE CURRENT
WAVEFORM IN tr4a/b
 W^- IS THE CURRENT
WAVEFORM IN tr5a/b

Fig. 9

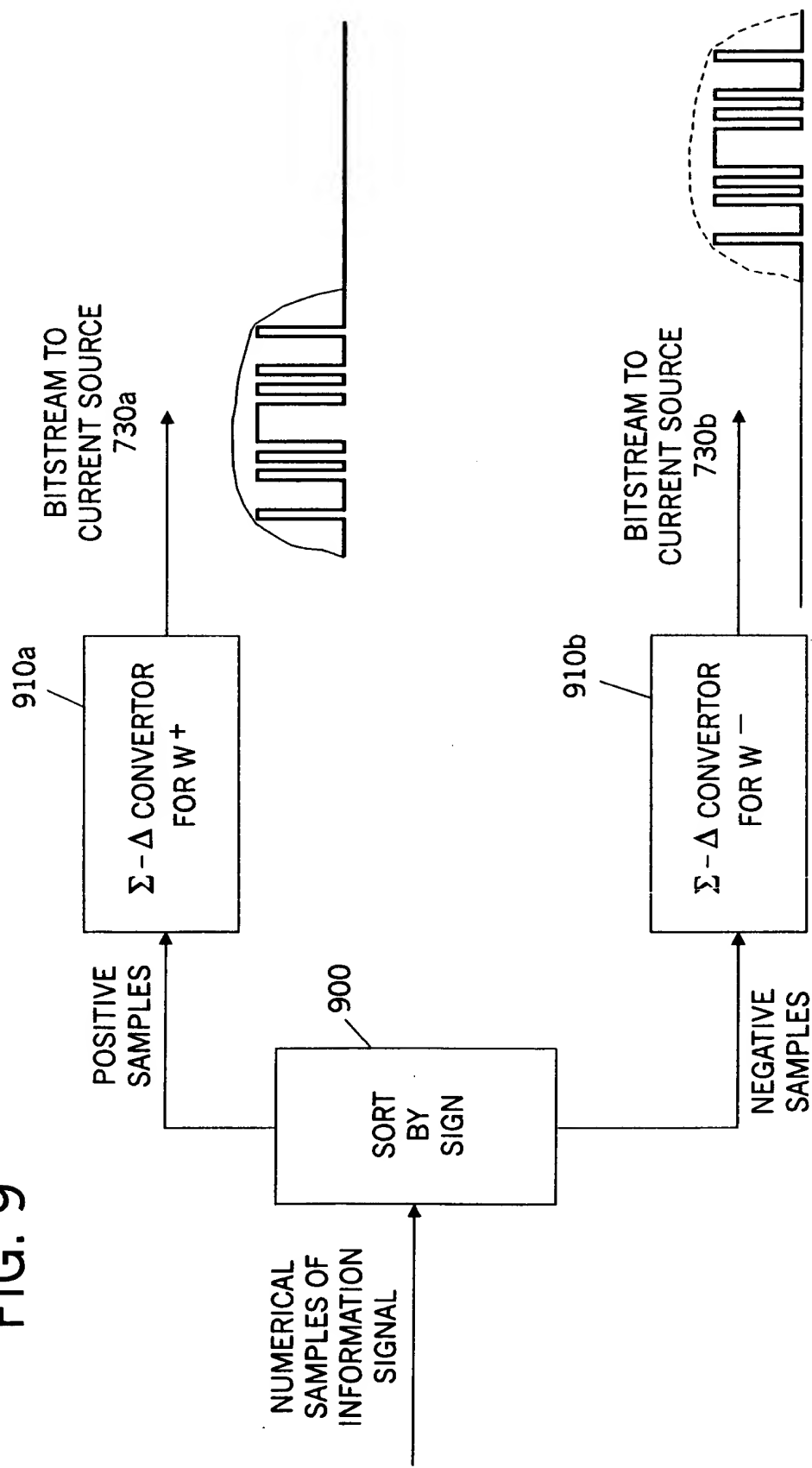


FIG. 10

